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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,643	03/23/2001	Sciyo Nakashima		6862

26021 7590 09/27/2004
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EXAMINER

KACKAR, RAM N

ART UNIT PAPER NUMBER

1763

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/816,643	Applicant(s) NAKASHIMA ET AL.	
	Examiner Ram N Kackar	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,13-22,24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,13-22,24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2 Claims 1-2, 4-7, 13-19 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by MacLeish et al (US5653808).

MacLeish et al disclose a processing chamber (Fig 2), a susceptor (Fig 2-50), a heating unit disposed below the susceptor (Fig 2-44), the susceptor capable of lifting, lowering and being rotatable with respect to heating unit (Col 4 line 65 to Col 5 line 5).

Regarding claim 1 and 15, fig 1 discloses the heating unit and susceptor close to each other while the substrate is lifted. Fig 2 on the other hand shows heating unit and susceptor again close just before separation while the substrate is lowered.

Regarding claim 4, 5, 16 and 17 the apparatus for lifting and lowering the substrate is partly disposed inside the susceptor (Fig 1-54) and partly outside (Fig 1-48).

Regarding claim 6 the susceptor has a central member (Fig 2) and an attached peripheral member (Fig 2- 50a) and the lifting apparatus is attached to the central member (Fig 2-48).

Regarding claim 7 and 19 the heating member is in three independently controllable parts so that at least one may correspond to the central part and one may correspond to the peripheral part (Col 4 56-60).

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Regarding claim 13, lift and lowering apparatus as being comprised of susceptor and housing it does get restricted in lowering at some point near the bottom of the chamber.

Regarding claim 22 the parts disclosed are in the same order as claimed. Nevertheless re arrangement of parts has been held obvious.

3 Claims 20, 21 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Nomura, Hishashi (JP 05291154).

Nomura Hishashi discloses a processing chamber (Fig 3), a susceptor (2), a heating unit disposed below the susceptor (3), the susceptor capable of lifting, lowering and being rotatable with respect to heating unit (Abstract and Paragraph 17), a shower head for gas (14) the lifting and lowering apparatus engaging in both heating and susceptor unit (Fig 3).

Claim Rejections - 35 USC § 103

4 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5 Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over MacLeish et al (US5653808).

Further to discussion of claim 18 MacLeish et al disclose all the limitations of claim 24 except the thermocouples for sensing temperature.

However, MacLeish et al disclose IR sensors. It would have been obvious to use thermocouple sensor in view of the teaching that instead of IR sensor any other type could also be used (Col 6 lines 7-9).

Response to Amendment

Applicant's arguments filed 8/18/2004 have been fully considered but they are not persuasive.

Regarding applicant's argument about constant distance in claims 1 and 15 as stated above, two situations are shown where the substrate is lowered or lifted while the heating unit and susceptor could be at constant distance. This is possible because of the possibility of bringing the pins in non-alignment as in fig 1 and in alignment as in fig 2.

Regarding claim 13 applicants argue that pin 54 which lifts and lowers the substrate abuts the upper surface of layer 46, which is between the susceptor 50 and coil 44 and not down side of an upper face of said heating unit.

Examiners position in this regards is that the lower part of pin 54 is the lifting and lowering apparatus since this end acts with the housing to lift or lower the substrate and this part in its lowest position gets below surface 46 (Col 8 lines 59-63).

Regarding claims 20 and 21 applicant argues that the abstract does not disclose or suggest that the substrate is processed in a state in which the susceptor is rotated relative to the heating unit and further argues that the rotary and lifting mechanism does not engage in the heater. This is incorrect since Abstract, Figures and paragraph 17 of the English translation clearly attest to that.

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Regarding claim 22 as explained above, gas is introduced at the top of substrates, which at that time is in processing position. From the top of the substrate (28) the exhaust gases travel down wards to exhaust (30) while the substrate transfer position is much lower to process position. Therefore the disclosure reads on the claim. The fact that the upstream point of gas is lower is not relevant as the claim recitation pertains to gas introduction, which would be at the point of use. However, as pointed out earlier, rearrangement of parts is equivalent and obvious.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 571 272 1439. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

RK


GREGORY MILLS
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